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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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YUTAKA YANO

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466

7590

12/08/2005

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EXAMINER

PHAN, HANH

ART UNIT

PAPER NUMBER

2638

DATE MAILED: 12/08/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No. **K**

09/593,761

Applicant(s)

YANO, YUTAKA

Examiner

Hanh Phan

Art Unit

2638

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 June 2000.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8, 18 and 19 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5, 18 and 19 is/are rejected.
- 7) ☒ Claim(s) 6-8 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.

- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

1. This Office Action is responsive to the Amendment filed on 09/21/2005.
2. Applicant's election without traverse of Species A, Figs. 1-5, directed to claims 1-8, 18 and 19 in the reply filed on 09/21/2005 is acknowledged.
3. -In claim 3, because Applicant **elects Species A (Figures 1-5)** and the features **"unit for inserting mutually differing dummy data patterns"** and **" unit for scrambling"** are not shown in the Figures 1-5. Therefore, in claim 3, the phrase "**further comprising any one of: a unit for mutually differing transmitting frame phases between at least two or more wavelength channels among a plurality of wavelength channels which are transmitted through a same optical fiber transmitting line; unit for inserting mutually differing dummy data patterns which are different each other among the wavelength channels; and a unit for scrambling said electric signals with mutually different scrambling patterns"** should be changed to -- further comprising a unit for mutually differing transmitting frame phases between at least two or more wavelength channels among a plurality of wavelength channels which are transmitted through a same optical fiber transmitting line --.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 1-8, 18 and 19 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

-In claim 1, the phrase "a wavelength-division multiplexed optical transmission system for transmitting an optical signal using frames via an optical fiber transmitting line" is not clear. The optical signal transmitted by the system should be an optical wavelength division multiplexed signal using frames and claim 1 must show how the optical wavelength division multiplexed signal using frames are generated by the system.

-In claim 1, line 5, the phrase "a plurality of wavelength channel frames" is not defined because claim 1 does not show how a plurality of wavelength channel frames are generated. For example, devices or means generate a plurality of wavelength channel frames should be defined in the claim 1.

-Claim 2 recites the limitation "**the optical signal**" in line 4. There is insufficient antecedent basis for this limitation in the claim.

Double Patenting

6. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory

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obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

7. Claims 1-5, 18 and 19 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-6 of U.S. Patent No. 6,619,867 (Asahi). Although the conflicting claims are not identical, they are not patentably distinct from each other because the limitations recited in claims 1-5, 18 and 19 of the instant application are encompassed by claims 1-6 of U.S. Patent No. 6,619,867 (Asahi).

Regarding claim 1, Asahi (U.S. Patent No. 6,619,867) discloses a wavelength-division multiplexed optical transmission system for transmitting an optical signal using frames via an optical fiber transmitting line, comprising:

a device for reducing mutual interference among a plurality of wavelength channel frames which are transmitted through a same optical fiber transmitting line (see claims 1-5 of Asahi).

Regarding claim 2, Asahi (U.S. Patent No. 6,619,867) discloses a transmitter for converting an inputted electric signal into the optical signal and transmitting the optical signal and a receiver for receiving said transmitted optical signal (see claims 1-5 of Asahi).

Regarding claim 3, Asahi (U.S. Patent No. 6,619,867) discloses further comprising a unit for mutually differing transmitting frame phases between at least two or more wavelength channels among a plurality of wavelength channels which are transmitted through a same optical fiber transmitting line (see claims 1-5 of Asahi).

Regarding claim 4, Asahi (U.S. Patent No. 6,619,867) discloses a frame phase updating unit for mutually differing transmitting frame phases between at least two or more wavelength channels among a plurality of wavelength channels which are transmitted through a same optical fiber transmitting line (see claims 1-5 of Asahi).

Regarding claim 5, Asahi (U.S. Patent No. 6,619,867) discloses further comprising a frame configuration unit for configuring frames of wavelength channels from a signal to be transmitted to said optical fiber transmitting line and selecting an output signal frame phase itself at random (see claims 1-5 of Asahi).

Regarding claim 18, Asahi (U.S. Patent No. 6,619,867) discloses a device generating different transmitting frame phase of channels if at least two wavelength channels among a plurality of wavelength channels have the same phases (see claims 1-5 of Asahi).

Regarding claim 19, Asahi (U.S. Patent No. 6,619,867) discloses a device generating random transmitting frame phase of channels if at least two wavelength

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channels among a plurality of wavelength channels have the same phases (see claims 1-5 of Asahi).

Claim Rejections - 35 USC § 102

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

9. Claims 1-5, 18 and 19 are rejected under 35 U.S.C. 102(b) as being anticipated by Okayama et al (US Patent No. 5,636,045).

Regarding claim 1, referring to Figures 1 and 2, Okayama teaches a wavelength-division multiplexed optical transmission system for transmitting an optical signal using frames via an optical fiber transmitting line, comprising:

a device (i.e., optical delay lines 15ca-15cd, Fig. 2) for reducing mutual interference among a plurality of wavelength channel frames which are transmitted through a same optical fiber transmitting line (col. 3, lines 45-58 and lines 57-67 and col. 4, lines 1-9).

Regarding claim 2, Okayama further teaches a transmitter for converting an inputted electric signal into the optical signal and transmitting the optical signal and a

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receiver for receiving the transmitted optical signal (Fig. 1, col. 3, lines 45-58 and lines 57-67 and col. 4, lines 1-9).

Regarding claim 3, Okayama further teaches comprising a unit (i.e., optical delay lines 15ca-15cd, Fig. 2) for mutually differing transmitting frame phases between at least two or more wavelength channels among a plurality of wavelength channels which are transmitted through a same optical fiber transmitting line (col. 3, lines 45-58 and lines 57-67 and col. 4, lines 1-9).

Regarding claim 4, Okayama further teaches a frame phase updating unit (i.e., optical delay lines 15ca-15cd, Fig. 2) for mutually differing transmitting frame phases between at least two or more wavelength channels among a plurality of wavelength channels which are transmitted through a same optical fiber transmitting line (col. 3, lines 45-58 and lines 57-67 and col. 4, lines 1-9).

Regarding claim 5, Okayama teaches further comprising a frame configuration unit (i.e., header reading unit 11 and optical multiplexer unit 15, Figs. 1 and 2) for configuring frames of wavelength channels from a signal to be transmitted to the optical fiber transmitting line and selecting an output signal frame phase itself at random (col. 3, lines 45-58 and lines 57-67 and col. 4, lines 1-9).

Regarding claim 18, Okayama further teaches a device (i.e., optical delay lines 15ca-15cd, Fig. 2) generating different transmitting frame phase of channels if at least two wavelength channels among a plurality of wavelength channels have the same phases (col. 3, lines 45-58 and lines 57-67 and col. 4, lines 1-9).

Regarding claim 19, Okayama further teaches a device (i.e., optical delay lines 15ca-15cd, Fig. 2) generating random transmitting frame phase of channels if at least two wavelength channels among a plurality of wavelength channels have the same phases (col. 3, lines 45-58 and lines 57-67 and col. 4, lines 1-9).

10. Claims 1-5, 18 and 19 are rejected under 35 U.S.C. 102(b) as being anticipated by Sansonetti et al (US Patent No. 5,737,106).

Regarding claim 1, referring to Figures 1-3, Sansonetti teaches a wavelength-division multiplexed optical transmission system for transmitting an optical signal using frames via an optical fiber transmitting line, comprising:

a device (i.e., optical delay line g, Fig. 1) for reducing mutual interference among a plurality of wavelength channel frames which are transmitted through a same optical fiber transmitting line (see from col. 2, line 47 to col. 5, line 12).

Regarding claim 2, Sansonetti further teaches a transmitter for converting an inputted electric signal into the optical signal and transmitting the optical signal and a receiver for receiving the transmitted optical signal (Fig. 1).

Regarding claim 3, Sansonetti further teaches comprising a unit (i.e., optical delay line g, Fig. 1) for mutually differing transmitting frame phases between at least two or more wavelength channels among a plurality of wavelength channels which are transmitted through a same optical fiber transmitting line.

Regarding claim 4, Sansonetti further teaches a frame phase updating unit (i.e., optical delay line g, Fig. 1) for mutually differing transmitting frame phases between at

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least two or more wavelength channels among a plurality of wavelength channels which are transmitted through a same optical fiber transmitting line.

Regarding claim 5, Sansonetti teaches further comprising a frame configuration unit (i.e., sources $\lambda_1, \lambda_2, \dots, \lambda_n$, Fig. 1) for configuring frames of wavelength channels from a signal to be transmitted to the optical fiber transmitting line and selecting an output signal frame phase itself at random (col. 2, lines 47-67).

Regarding claim 18, Sansonetti further teaches a device (i.e., optical delay line g, Fig. 1) generating different transmitting frame phase of channels if at least two wavelength channels among a plurality of wavelength channels have the same phases.

Regarding claim 19, Sansonetti further teaches a device (i.e., optical delay line g, Fig. 1) generating random transmitting frame phase of channels if at least two wavelength channels among a plurality of wavelength channels have the same phases.

11. Claims 1-5, 18 and 19 are rejected under 35 U.S.C. 102(b) as being anticipated by Spanke (US Patent No. 5,572,350).

Regarding claim 1, referring to Figure 1, Spanke teaches a wavelength-division multiplexed optical transmission system for transmitting an optical signal using frames via an optical fiber transmitting line, comprising:

a device (i.e., optical delay lines 36-1 to 36-M, Fig. 1) for reducing mutual interference among a plurality of wavelength channel frames which are transmitted through a same optical fiber transmitting line (col. 3, lines 5-64).

Regarding claim 2, Spanke further teaches a transmitter for converting an inputted electric signal into the optical signal and transmitting the optical signal and a receiver for receiving the transmitted optical signal (Fig. 1).

Regarding claim 3, Spanke further teaches comprising a unit (i.e., optical delay lines 36-1 to 36-M, Fig. 1) for mutually differing transmitting frame phases between at least two or more wavelength channels among a plurality of wavelength channels which are transmitted through a same optical fiber transmitting line.

Regarding claim 4, Spanke further teaches a frame phase updating unit (i.e., optical delay lines 36-1 to 36-M, Fig. 1) for mutually differing transmitting frame phases between at least two or more wavelength channels among a plurality of wavelength channels which are transmitted through a same optical fiber transmitting line.

Regarding claim 5, Spanke teaches further comprising a frame configuration unit (i.e., photonic data signals 16 and data source 12, Fig. 1) for configuring frames of wavelength channels from a signal to be transmitted to the optical fiber transmitting line and selecting an output signal frame phase itself at random (col. 2, lines 47-67).

Regarding claim 18, Spanke further teaches a device (i.e., optical delay lines 36-1 to 36-M, Fig. 1) generating different transmitting frame phase of channels if at least two wavelength channels among a plurality of wavelength channels have the same phases.

Regarding claim 19, Spanke further teaches a device (i.e., optical delay lines 36-1 to 36-M, Fig. 1) generating random transmitting frame phase of channels if at least

two wavelength channels among a plurality of wavelength channels have the same phases.

12. Claims 1-5, 18 and 19 are rejected under 35 U.S.C. 102(e) as being anticipated by Murata (US Patent No. 6,654,562).

Regarding claim 1, referring to Figure 2, Murata teaches a wavelength-division multiplexed optical transmission system for transmitting an optical signal using frames via an optical fiber transmitting line, comprising:

a device (i.e., phase alignment unit 6, Fig. 2) for reducing mutual interference among a plurality of wavelength channel frames which are transmitted through a same optical fiber transmitting line (col. 5, lines 1-54).

Regarding claim 2, Murata further teaches a transmitter for converting an inputted electric signal into the optical signal and transmitting the optical signal and a receiver for receiving the transmitted optical signal (Fig. 2).

Regarding claim 3, Murata further teaches comprising a unit (i.e., phase alignment unit 6, Fig. 2) for mutually differing transmitting frame phases between at least two or more wavelength channels among a plurality of wavelength channels which are transmitted through a same optical fiber transmitting line.

Regarding claim 4, Murata further teaches a frame phase updating unit (i.e., phase alignment unit 6, Fig. 2) for mutually differing transmitting frame phases between at least two or more wavelength channels among a plurality of wavelength channels which are transmitted through a same optical fiber transmitting line.

Regarding claim 5, Murata teaches further comprising a frame configuration unit (Fig. 2) for configuring frames of wavelength channels from a signal to be transmitted to the optical fiber transmitting line and selecting an output signal frame phase itself at random (col. 5, lines 1-54).

Regarding claim 18, Murata further teaches a device (i.e., phase alignment unit 6, Fig. 2) generating different transmitting frame phase of channels if at least two wavelength channels among a plurality of wavelength channels have the same phases.

Regarding claim 19, Murata further teaches a device (i.e., phase alignment unit 6, Fig. 2) generating random transmitting frame phase of channels if at least two wavelength channels among a plurality of wavelength channels have the same phases.

Allowable Subject Matter

13. Claims 6-8 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims and overcome the 112 rejection above.

Response to Arguments

14. Applicant's arguments with respect to claims 1-8, 18 and 19 have been considered but are moot in view of the new ground(s) of rejection.


Conclusion

15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hanh Phan whose telephone number is (703)306-5840.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kenneth Vanderpuye, can be reached on (571)272-3078. The fax phone number for the organization where this application or proceeding is assigned is (571)273-8300.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)305-4700.


HANH PHAN
PRIMARY EXAMINER